

Editorial Comment

More on the Noonan-CFC Controversy

Giovanni Neri and Marcella Zollino

Istituto di Genetica Medica, Facoltà di Medicina "A. Gemelli," Università Cattolica, Rome, Italy

We read with interest the report by Lorenzetti and Fryn [1996] on a Noonan syndrome patient with retinitis pigmentosa, published in this issue of the Journal. We definitely concur with their diagnosis. Actually, the patient has all of those characteristics that we consider distinctive of Noonan syndrome vis-à-vis CFC syndrome, i.e., thick hair (not as sparse and woolly as in CFC syndrome), bushy eyebrows (not sparse or absent, as in CFC syndrome), absence of skin lesions (only dryness is mentioned by the authors), neck webbing (rarely reported in CFC syndrome), and normal intelligence.

Therefore, the authors' claim, that this patient supports the view that Noonan and CFC syndromes may be the same entity, only rests on the finding of ocular abnormalities. However, those abnormalities listed in their Table I are admittedly common to both syndromes and are at least partially attributable to congenital lymphedema and muscular hypotonia, which are likely to represent common pathogenetic pathways in the phenogenesis of Noonan and CFC syndromes [Mendez, 1985; Neri et al., 1991]. This leaves retinitis pigmentosa as the sole potentially critical and discriminating finding. However, it must be noted that this abnormality has only been reported in the patient of Lorenzetti and Fryns [1996]. In patients described by Dunya et al. [1993] and Adès et al. [1992], the situation seems to be quite different. A "cone dystrophy" is reported in the former, and "thinning of the retinal pigment" in the latter.

This is not nearly enough evidence to conclude that Noonan and CFC are one and the same condition. Even less does the patient of Lorenzetti and Fryns support

the contention of Fryer et al. [1991] that CFC and Noonan are examples of contiguous gene syndromes. Again, the issue will be resolved once and for all by the cloning of Noonan and/or CFC gene(s), an accomplishment that hopefully is not too far away, given the recent assignment of a Noonan syndrome locus to 12q [Jamieson et al., 1994].

Meanwhile, we agree with Lorenzetti and Fryns that "ophthalmological investigations are to be recommended in patients with CFC and NS syndrome," including funduscopy and electroretinography.

REFERENCES

- Adès LC, Sillence DO, Roger M (1992): Cardio-facio-cutaneous syndrome (case report). *Clin Dysmorphol* 1:145-150.
- Dunya I, Hoon A, Traboulsi E (1993): Retinal dystrophy in the cardio-facio-cutaneous syndrome. *J Pediatr Ophthalmol Strabismus* 30:264-265.
- Fryer AE, Holt PJ, Huges HE (1991): The cardio-facio-cutaneous (CFC) syndrome and Noonan syndrome: Are they the same? *Am J Med Genet* 38:548-551.
- Jamieson CR, van der Burgt I, Brady AF, Van Reen M, Elswawi MM, Hol F, Jeffery S, Patton MA, Mariman E (1994): Mapping a gene for Noonan syndrome to the long arm of chromosome 12. *Nat Genet* 8:357-360.
- Lorenzetti ME, Fryns JP (1996): Retinitis pigmentosa in a young man with Noonan syndrome: Further evidence that Noonan syndrome (NS) and the cardio-facio-cutaneous syndrome (CFC) are variable manifestations of the same entity? *Am J Med Genet* 65:97-99.
- Mendez MM (1985): The neurofibromatosis-Noonan syndrome. *Am J Med Genet* 21:471-476.
- Neri G, Zollino M, Reynold J (1991): The Noonan-CFC controversy. *Am J Med Genet* 39:367-370.

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Address reprint requests to Giovanni Neri, M.D., Istituto di Genetica Medica, Università Cattolica del S. Cuore, Largo F. Vito 1, 00168 Rome, Italy.